

AMENDMENTS TO THE CLAIMS

1. (Previously presented) An examination apparatus for use in selecting a patient for whom an oxygen therapy is effective among patients having chronic heart failure, the apparatus comprising:

a non-implantable biological information monitoring system, which has a unit for measuring and recording an airflow information about presence/absence or magnitude of respiratory airflow of the subject patient having chronic heart failure for whom the oxygen therapy is effective, and a unit for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, wherein the monitoring system is constituted such that the subject patient can move in the state having the monitoring attached on the body of the subject patient;

an analysis unit for analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form;

an editor part for selecting a zone to be subjected to data processing among biological information including the airflow information and the electrocardiogram wave form of the subject patient through visual identification; and

an output part for displaying or printing both of: (A) a transition of respiratory airflow; and (B) a transition of enhanced state of sympathetic nerves, of the subject patient within the zone selected by the editor part.

2. (Previously Presented) The examination apparatus according to claim 1, wherein the analysis unit analyzes the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form with a heart rate variability analytical procedure.

3. (Previously Presented) The examination apparatus according to claim 1 or 2 which comprises an analysis unit for analyzing synchronization of transition of the respiratory state in a Cheyne-Stokes respiratory symptom in which apnea and respiratory states are repeated with transition of abnormal enhancement of sympathetic nerves.

4. (Previously presented) A therapeutic system comprising: (1) an examination apparatus for use in selecting a patient for whom an oxygen therapy is effective among patients having a chronic heart failure, and/or use in ascertaining a therapeutic effect of the oxygen therapy; and (2) a supplying apparatus of an oxygen-enriched gas for respiration for the purpose of carrying out the oxygen therapy,

wherein the examination apparatus comprising:

a non-implantable biological information monitoring system, which has a unit for measuring and recording an airflow information about presence/absence of magnitude of respiratory airflow of the subject patient, and a unit for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, wherein the monitoring system is constituted such that the subject patient can move in the state having the monitoring system attached on the body of the subject patient;

an analysis unit for analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form;

an editor part for selecting a zone to be subjected to data processing among biological information including the airflow information and the electrocardiogram wave form of the subject patient through visual identification; and

an output part for displaying or printing both of: (A) a transition of respiratory airflow; and (B) a transition of enhanced state of sympathetic nerves, of the subject patient within the zone selected by the editor part.

5. (Original) The therapeutic system according to claim 4 wherein the supplying apparatus of an oxygen-enriched gas for respiration is constituted to allow flow rate of the oxygen-enriched gas for respiration to be regulatable within a predetermined range so that the flow rate becomes the amount prescribed on the basis of the result displayed or printed by the output part of the examination apparatus.

6. (Previously presented) A method of selecting a patient for whom an oxygen therapy is effective among patients having a chronic heart failure comprising:

a step of attaching a non-implantable biological information monitoring system to the subject patient, wherein the monitoring system has a unit for measuring and recording an airflow information about presence/absence or magnitude of respiratory airflow of the subject patient, and a unit for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, and wherein the monitoring system is constituted such that the subject patient can move in the state having the monitoring system attached on the body of the subject patient;

a step of measuring respiratory airflow and electrocardiogram wave form of the subject patient by using the monitoring system;

a step of analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form;

a step of selecting a zone to be subjected to data processing among biological information of the subject patient through visual identification; and

a step of selecting a patient who exhibits both results that (A) the measured state of sympathetic nerves is an enhanced state, and (B) the transition of enhanced state of sympathetic nerves is found in conjunction with transition of respiratory airflow and an analysis result during the step of analysis within the zone selected,

wherein the oxygen therapy is to supply an oxygen-enriched gas for respiration of a patient.

7. (Previously Presented) The method of selecting a patient for whom an oxygen therapy is effective according to claim 6 wherein the selecting step contains a step of analyzing whether or not the patient detects a Cheyne-Stokes respiratory symptom in which apnea wave form and respiration wave form are repeated.

8. (Previously Presented) The method of selecting a patient for whom an oxygen therapy is effective according to claim 7 wherein the selecting step contains a step of analyzing whether or not the enhancement of sympathetic nerve occur in conjunction with occurrence of the respiration wave form in a Cheyne-Stokes respiratory symptom of the patient.

9. (Previously Presented) The method of selecting a patient for whom an oxygen therapy is effective according to any one of claims 6 to 8 wherein the analyzing step comprises analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form by a heart rate variability analytical procedure.

10. (Previously presented) A method of selecting a patient for whom an oxygen therapy is effective among patients having a chronic heart failure comprising:

- a step of determining arterial oxygen saturation of a patient;

- a step of attaching a non-implantable biological information monitoring system to the subject patient, wherein the monitoring system has a unit for measuring and recording an airflow information about presence/absence or magnitude of respiratory airflow of the subject patient, and a unit for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, and wherein the monitoring system is constituted such that the subject patient can move in the state having the monitoring system attached on the body of the subject patient;

- a step of measuring respiratory airflow and electrocardiogram wave form of the subject patient by using the monitoring system;

- a step of analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form;

- a step of selecting a zone to be subjected to data processing among biological information of the subject patient through visual identification; and

- a step of selecting a patient who exhibits the results within the zone selected of

- (A) a measured arterial oxygensaturation not higher than a predetermined threshold value,

- (B) a measured state of sympathetic nerves in an enhanced state and

- (C) a transition of enhanced state of sympathetic nerves found in conjunction with a transition of respiratory airflow,

- wherein the oxygen therapy is to supply an oxygen-enriched gas for respiration of a patient.

11. (Previously presented) A therapeutic method for chronic heart failure which comprises:

a step of attaching a non-implantable biological information monitoring system to the subject patient, wherein the monitoring system has a unit for measuring and recording an airflow information about presence/absence or magnitude of respiratory airflow of the subject patient, and a unit for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, and wherein the monitoring system is constituted such that the subject patient can move while having the monitoring system attached on the body of the subject patient;

a step of measuring respiratory airflow and electrocardiogram wave form of the subject patient by using the monitoring system;

a step of analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form;

a step of selecting a zone to be subjected to data processing among biological information of the subject patient through visual identification;

a step of selecting a patient exhibiting both results within the zone selected of (A) a measured state of sympathetic nerves in an enhanced state, and (B) a transition of enhanced state of sympathetic nerves found in conjunction with a transition of respiratory airflow; and

a step of administering an oxygen therapy for the selected subject patient,

wherein the oxygen therapy is to supply an oxygen-enriched gas for respiration of a patient.

12. (Previously presented) The therapeutic method for chronic heart failure according to claim 11 wherein the selecting step contains a step of analyzing whether or not the patient exhibits a Cheyne-Stokes respiratory symptom in which apnea wave form and respiration wave form are repeated, and the enhancement of sympathetic nerves occur in conjunction with occurrence of respiration wave form in a Cheyne-Stokes respiratory symptom of the patient.

13. (Previously presented) A therapeutic method for chronic heart failure which comprises:

a step of determining arterial oxygen saturation of the subject patient,

a step of attaching a non-implantable biological information monitoring system to the subject patient,

wherein the monitoring system has a unit for measuring and recording an airflow information about presence/absence or magnitude of respiratory airflow of the subject patient, and a unit for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, and wherein the monitoring system is constituted such that the subject patient can move while having the monitoring system attached on the body of the subject patient;

a step of measuring respiratory airflow and electrocardiogram wave form of the subject patient by using the monitoring system;

a step of analyzing the enhanced state of sympathetic nerves based on the measured electrocardiogram wave form;

a step of selecting a zone to be subjected to data processing among biological information of the subject patient through visual identification;

a step of selecting a patient who exhibits the results within the zone selected of

(A) a measured arterial oxygen saturation not higher than a predetermined threshold value,

(B) a measured state of sympathetic nerves in an enhanced state, and

(C) a transition of enhanced state of sympathetic nerves found in conjunction with transition of respiratory airflow; and

a step of administering an oxygen therapy for the selected subject patient,

wherein the oxygen therapy is to supply an oxygen-enriched gas for respiration of a patient.

14. (Previously presented) An examination apparatus for use in selecting a patient for whom an oxygen therapy is effective among patients having chronic heart failure, the apparatus comprising:

a non-implantable biological information monitoring system, which has a unit for measuring and recording an airflow information about presence/absence or magnitude of respiratory airflow of the subject patient having chronic heart failure for whom the oxygen therapy is effective, and a unit

for measuring and recording an electrocardiogram wave form of the subject patient having an electrode part which can be stuck on the skin of the subject patient, wherein the monitoring system is constituted such that the subject patient can move in the state having the monitoring attached on the body of the subject patient;

a recording medium, that is detachably attachable to the non-implantable biological information monitoring system, and that stores a biological information including the airflow information, the magnitude of respiratory airflow and the electrocardiogram wave form of the subject patient;

an analysis unit for analyzing the enhanced state of sympathetic nerves based on the biological information stored in the recording medium;

an output part for displaying or printing both of: (A) a transition of respiratory airflow; and (B) a transition of enhanced state of sympathetic nerves, of the subject patient within the zone selected by the editor part.

15. (Previously presented) The examination apparatus according to claim 1, wherein the examination apparatus further comprises a recording medium, that is detachably attachable to the non-implantable biological information monitoring system, and that stores a biological information which includes at least the electrocardiogram wave obtained form of the subject patient, the analysis at the analysis unit is made based on the biological information stored in the recording medium.